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## PATENT ABSTRACTS OF JAPAN

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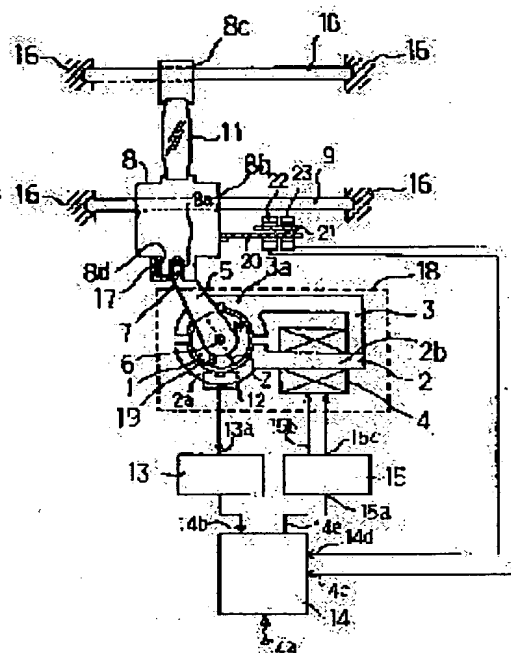
(72)Inventor : CHIAKI TATSUO  
MURAKAMI JUNICHI  
AKATA KOJI

## (54) DRIVING DEVICE AND OPTICAL INSTRUMENT USING THE SAME

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To quickly, accurately and quietly control the position of a lens barrel with small driving force by controlling the movement of the lens barrel to a target position with the driving force decided by the present position and the moving speed of the lens barrel.

**SOLUTION:** Guide bars 9 and 10 are parallelly arranged in the direction of the optical axis of a photographic lens 11, the lens barrel 8 is supported freely movably in the length direction of the guide bars 9 and 10, a detection circuit 13 amplifies signals corresponding to the change of the output signals of a Hall element 32 for detecting the moving speed of the lens barrel 8 and differentiates and outputs them. Also, accompanying the movement of the lens barrel 8, an optical scale 20 is relatively moved through a small gap with a mask 21 and detects the position of the lens barrel 8 by photointerrupters 22 and 23. Then, a microcomputer 14 controls a driving circuit 15 so as to stop the lens barrel 8 at the target position by the driving force decided by the position and the moving speed of the lens barrel 8.



## LEGAL STATUS

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